

HRT can slow decline in lung function for middle-aged women

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Hormone replacement therapy (HRT) can slow the decline in lung function in middle-aged women, according to new research presented at the European Respiratory Society International Congress today.

Evidence from a study that followed 3,713 women for approximately 20 years from the early 1990s to 2010, showed that those who took long-term HRT (for two years or more) performed better in lung function tests than women who never took HRT.

Dr Kai Triebner, a postdoctoral fellow at the University of Bergen, Norway, told the congress: "Lung function peaks during the mid-twenties, and from then on it will go down; however, it is possible to identify which factors influence the decline, either by slowing it down or accelerating it. One accelerating factor, for example, is the menopause. Therefore, a key question is whether HRT could, at least partly, counteract it."

The women's lung function was measured when they joined the European Community Respiratory Health Survey and again after 20 years. Tests of forced vital capacity (FVC) - which measures the amount of air that can be exhaled from the lungs after taking the deepest breath possible - showed that women who took HRT for two or more years lost an average of 46 ml less of lung volume over the duration of the study, compared with women who never took HRT.

"This will most likely not be clinically significant for healthy women.

However, in women who are suffering from airway diseases, the decline in lung function may influence quality of life, as it could lead to an increase in shortness of breath, reduced work capacity and fatigue," said Dr Triebner.

"To put these findings in context, if a woman smoked a pack of cigarettes a day for three years, the loss of forced vital capacity would correspond roughly in size to 46 ml.

"Our findings show that female sex hormones are important for the preservation of lung function in middle-aged women."

Women from Norway, Sweden, Iceland, Estonia, Denmark, Belgium, Germany, France, Spain and the UK took part in the European Community Respiratory Health Survey. A total of 236 women took long-term HRT (two years or more). These women were matched with 236 other women who never took HRT (by age, weight, height, age at menopause, smoking behaviour and baseline [lung](#) function). In 2010, when the follow-up tests were taken, the women's ages ranged from 44 to 67, with an average age of 59 years. The analysis focused on oral HRT, not investigating different formulations.

The researchers adjusted for factors that could affect the results, such as the type of spirometer, length of follow-up time and which clinical centre they enrolled at. In this analysis, physical activity and surgical menopause were not significantly associated with [lung function decline](#).

"However, physical activity has a number of beneficial effects, so in my personal opinion a balanced amount of physical exercise is desirable," explained Dr Triebner.

He emphasised that the results should not be considered as advocating for or against the use of HRT - nor for thinking that using HRT might

compensate for a smoking habit. While HRT can help with menopausal symptoms and protects against osteoporosis, it has also been linked with an increase in the risk of breast cancer and heart and blood vessel problems.

"Women, as well as physicians, need to be better informed about health changes during the post-menopausal period. This study provides more information, which represents another building block and, together with other existing studies, it can pave the way to the right decision for each individual woman. Women with existing health problems, for instance asthma, need to be followed more thoroughly through the menopausal transition and be provided with advice on medications that take the changing hormone levels better into account - ideally with a personalised approach," concluded Dr Triebner.

More information: Abstract no: OA4420, "Hormone replacement therapy may preserve lung function during reproductive aging"; Factors associated with lung function development session, 14.45-16.45 hrs CEST, Tuesday 12 September, Pink (south).

Provided by European Lung Foundation

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